

WHAT IS CLAIMED IS:

1. An aqueous composition having dispersed therein polymerizable reactants and an inorganic particulate carrier having sorbed thereon a Water Incompatible Catalyst for said polymerizable reactants.
2. The composition of claim 1 wherein said Water Incompatible Catalyst is a metal containing catalyst having a water solubility less than 1% by weight in water at 25° C. based upon the weight of metal in the catalyst.
3. The composition of claim 1 wherein said Water Incompatible Catalyst is hydrophobic.
4. The composition of claim 1 wherein said Water Incompatible Catalyst is a liquid when sorbed onto said inorganic particulate carrier and the weight ratio of the catalyst to the particulate carrier is between 0.1:1 to 2.5:1.
5. The composition of claim 4 wherein said Water Incompatible Catalyst is molten and at a temperature above 25° C. when sorbed on said inorganic particulate carrier and the weight ratio of the catalyst to the particulate carrier is between 0.1:1 to 2.5:1.

6. The composition of claim 1 wherein the particulate carrier is selected from the group consisting of fumed silica, precipitated silica, alumina, alumino silicates, alumino phosphates, zeolites, diatomaceous earth, titania, zirconia, magnesia, aluminum silicate, aluminim phosphate, talc, and carbon and has a particle size less than 100 microns.

7. The composition of claim 1 wherein said Water Incompatible Catalyst is selected from the group 10 consisting of dibutyltin dilaurate, dibutyltin dioleate, dimethyltin dilaurate, dimethyltin distearate, trioctyltin oxide, trioctyltin acetate, bis-trioctyltin phthalate, monobutyltin tris(2-ethylhexoate), monomethyltin tris(2-ethylhexanoate), zinc octoate, zinc 15 palmitate, zinc oleate, zinc tallate, zinc stearate, bismuth 2-ethylhexanoate, bismuth laurate, bismuth neodecanoate, bismuth oleate, bismuth tallate, and bismuth stearate.

8. The composition of claim 1 wherein said Water 20 Incompatible Catalyst is zinc octoate, zinc palmitate, zinc oleate, zinc tallate, zinc stearate and the inorganic particulate carrier is silica particles.

9. A process of coating a surface of an article with a polymer comprising immersing the article in the aqueous composition of claim 1, electrolytically depositing said polymerizable reactants and said inorganic particulate carrier containing said sorbed catalyst onto the surface, removing the article from the bath and curing the reactants to form a polymer coating on the article.

10. The coated article produced by the process of
10 claim 9.

11. The aqueous composition of claim 1 wherein the reactants comprise:

(i) a blocked isocyanate or a blocked isothiocyanate;

15 (ii) a functional compound containing active hydrogen and reactive with said blocked component; and,

(iii) the particulate carrier is a silicate having a particle size of less than 100 microns, the catalyst sorbed on said particle has a water solubility less than 20 1% by weight in water at 25° C. based upon the weight of metal in the catalyst.

12. The composition of claim 2 wherein:

(i) said blocked reactive component comprises a blocked polyisocyanate;

(ii) said functional compound reactive with said blocked reactive component comprises a polyfunctional compound containing active hydrogens and said catalyst is trioctyltin oxide.

13. The composition of claim 2 wherein:

(i) the blocked reactive component is a blocked isocyanate or a blocked isothiocyanate;

(ii) the functional compound reactive with said blocked reactive component contains active hydrogens;

(iii) the catalyst for promoting the reaction of the reactive component with the blocked functional compound is water insoluble and based on the reaction product of manganese, cobalt, nickel, copper, zinc, germanium, antimony, or bismuth, or the oxides, carbonates, or alkoxides thereof with a mercaptan, or an organic acid, wherein said organic acid is hexanoic, oxalic, adipic, lactic, tartaric, salicylic, thioglycolic, succinic, or mercapto succinic acid, or the reaction product of copper or germanium, or the oxides thereof with a lower aliphatic acid, and a monorgano tin, diorgano tin, or

triorganotin compound for promoting the reaction of said polyisocyanate with said polyfunctional compound and, wherein the inorganic particulate carrier is selected from the group consisting of fumed silica, precipitated 5 silica, alumina, alumino silicates, alumino phosphates, zeolites, diatomaceous earth, titania, zirconia, magnesia, aluminum silicate, aluminum phosphate, talcs, and graphite.

14. A process for coating a metal substrate

10 comprising contacting said substrate with the aqueous composition of claim 1 and passing an electric current between the substrate and a counter-electrode in electrical contact with said aqueous composition until a desired coating thickness is deposited from said 15 composition onto said substrate; removing the coated metal substrate from the aqueous composition; and, curing said coating.

16. A product produced by the process of claim 14.

17. A catalyst for an aqueous coating composition

20 comprising a Water Incompatible Catalyst sorbed onto an inorganic particulate carrier having a particle size below 20 microns.

17. The catalyst of claim 16 wherein the Water Incompatible Catalyst is a metal containing catalyst having a water solubility less than 1% by weight in water at 25° C. based upon the weight of metal in the catalyst

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18. The catalyst of claim 16 wherein the Water Incompatible Catalyst is hydrophobic.

19. The catalyst of claim 16 wherein the Water

Incompatible Catalyst is in a liquid phase when sorbed onto said inorganic particulate carrier.

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20. The catalyst of claim 19 wherein the catalyst is in a liquid phase by being dissolved in a nonaqueous solvent.

21. The catalyst of claim 19 wherein the catalyst is

15 a solid at ambient temperature and is at a temperature above its melting point when sorbed onto said particulate carrier.

22. The catalyst of claim 16 wherein said particulate carrier is selected from the group consisting of fumed 20 silica, precipitated silica, alumina, alumino silicates, alumino phosphates, zeolites, diatomaceous earth, titania, zirconia, magnesia, aluminum silicate, aluminum

phosphate, talc, and carbon and has a particle size less than 100 microns.

23. The composition of claim 16 wherein said catalyst is an organotin compound.

5 24. The catalyst of claim 23 wherein said organotin is triorgano tin compound selected from the group consisting of dibutyltin dilaurate, dibutyltin dioleate, dimethyltin dilaurate, dimethyltin distearate, bis(tributyltin)oxide, bis(trioctyltin)oxide,
10 bis(triphenyltin)oxide or triphenyl-tin hydroxide.

25. The catalyst of claim 24 wherein said triorgano tin compound comprises bis(trioctyltin)oxide.

26. A process for manufacturing the catalyst of claim 16 comprising sorbing said catalyst on an inorganic
15 particular carrier.